

Mobility Fund II Support for Rural Agriculture

October 13, 2016



Deere & Company

- Global leader in the manufacture of agricultural, turf, construction, and forestry equipment, and other machinery.
- Deere Products and Services:
- Information and communications technologies are integrated throughout Deere agricultural equipment line.
- Today, machine-to-machine ("M2M") communications and machine-to-farm communications have become integral components of daily agricultural operations.
- Deere is pioneering state-of-the-art data and information solutions designed to greatly enhance agricultural productivity and sustainability.

US Agricultural Sector

Deere Customers:

Cultivate, harvest, transform, enrich and build upon the land to meet the world's dramatically increasing need for food, fuel, fiber, and infrastructure.

US Agriculture and Food Related Industry:

\$835 billion in 2014 GDP with \$ 177 billion of farm output alone. US agricultural exports: \$ 133 billion in 2015.

- Agricultural operations are a significant economic sector: 17.3 million jobs in U.S. in agriculture with 2.6 million direct on-farm; related industries include 14.7 million jobs.
- Agriculture is a major economic driver in rural areas; rural populations are employed directly on farms or work in businesses that are dependent on agricultural operations.

Today US Agriculture Is Technology Driven

Recent Senate letter to Chairman Wheeler from Senators Roger Wicker (R-MS) and Joe Manchin (D-WVA), and a bipartisan group of 24 other Senators from rural states, described today's challenge to the U.S. agricultural sector:

"American farmers and ranchers seek to feed, fuel, and clothe an ever increasing global population using limited land, water and other resources."

To achieve these goals, the nation's farmers look to precision agriculture techniques which increasingly require high-speed mobile broadband.

"Mobility is essential for new precision agriculture technologies to deliver productivity gains and environmental sustainability... [but] broadband, particularly high speed mobile broadband, is not readily available in many rural areas..."

Access to Mobile Broadband in Agricultural Areas is Inadequate

Significant areas of agricultural activity do not have access to high speed mobile broadband services

Private investment is not bringing wireless broadband to agricultural areas, i.e., "croplands"

Senators urged the Commission to do more to address the mobile broadband needs of rural Americans in the agricultural sector:

"Croplands and ranch lands have lagged behind in adequate mobile coverage, even as demand for coverage has grown. To address this coverage gap, we urge you to consider a metric of broadband access in croplands (and farm buildings), or some other geographic measurement, in addition to road miles, to identify these areas of greatest need. "Cropland" coverage can be assessed using United States Department of Agriculture data for crop operations, the United States Geological Survey's Land Use classification, or other databases."

How Can Mobility Fund II Address Agricultural Demand for Broadband?

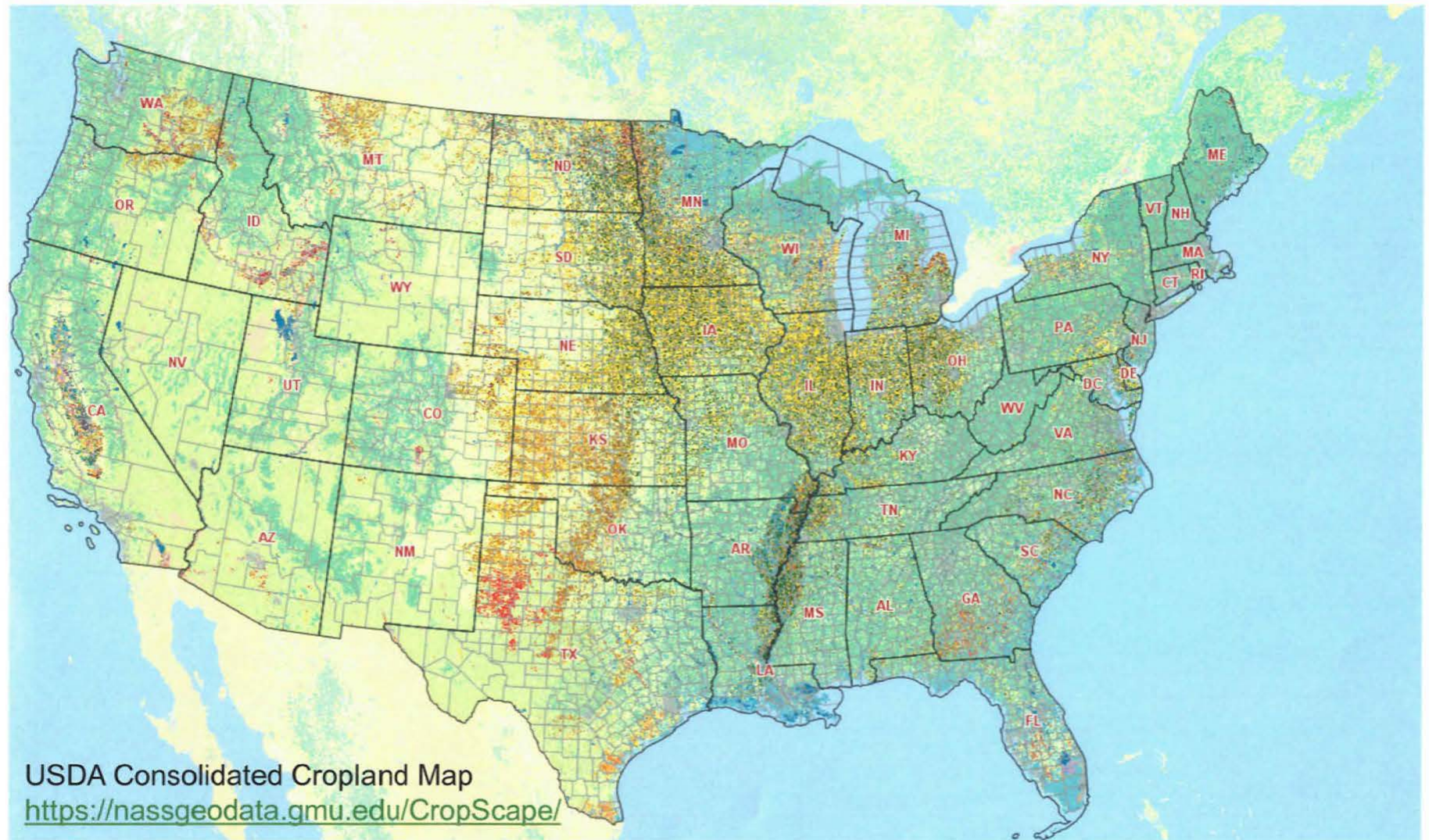
Mobility Fund II- Goal is to support rural broadband deployment to serves the needs of rural Americans where they “live, work or travel.”

Commission Rules should measure and support bringing 4G wireless broadband to croplands.

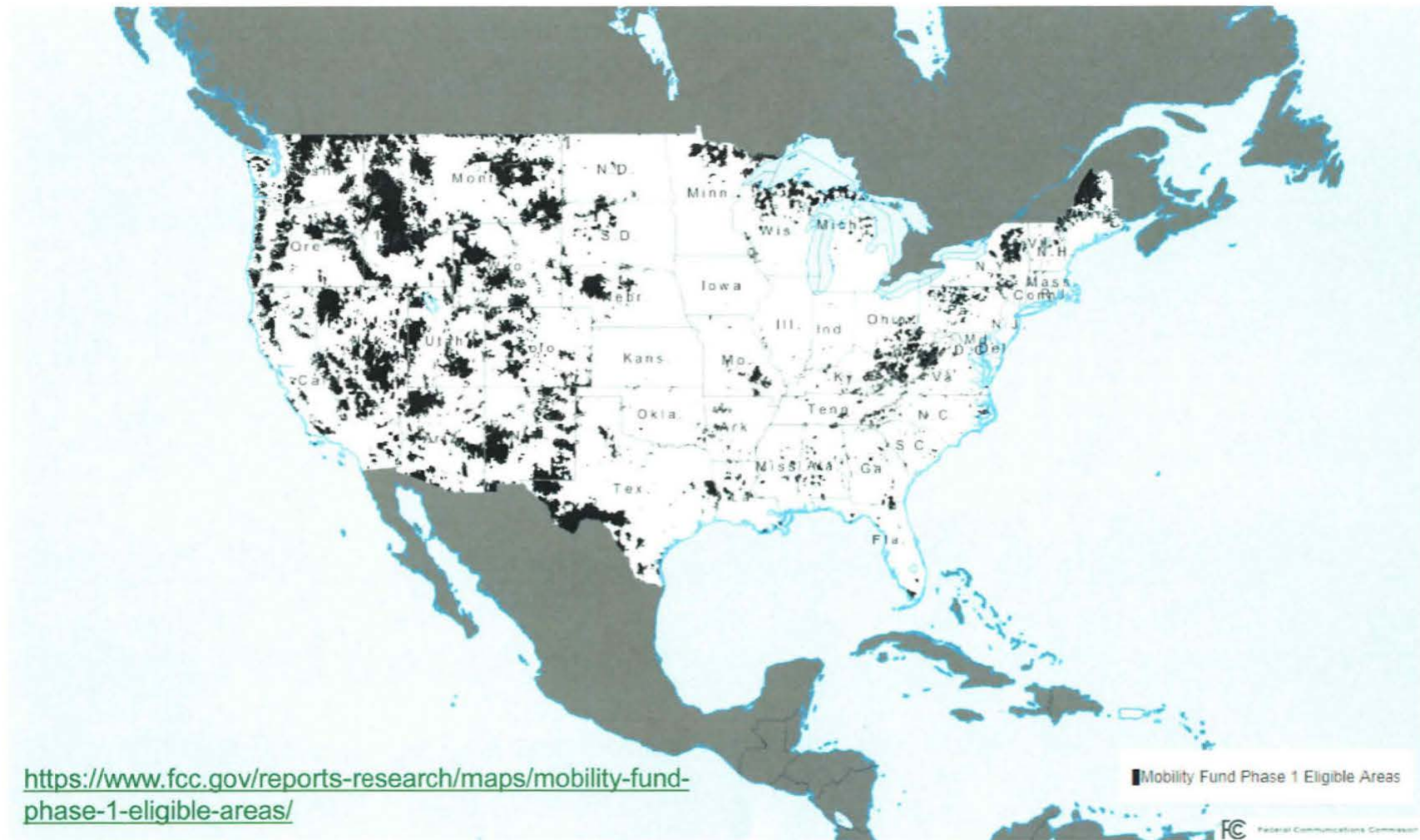
How can Commission MF II rules specifically address the broadband needs in agricultural areas?

Base MF-II bidding and coverage units on a weighted average of population and cropland acreage; adjust construction milestones and coverage requirements to ensure that carriers construct networks that cover cropland in addition to population centers.

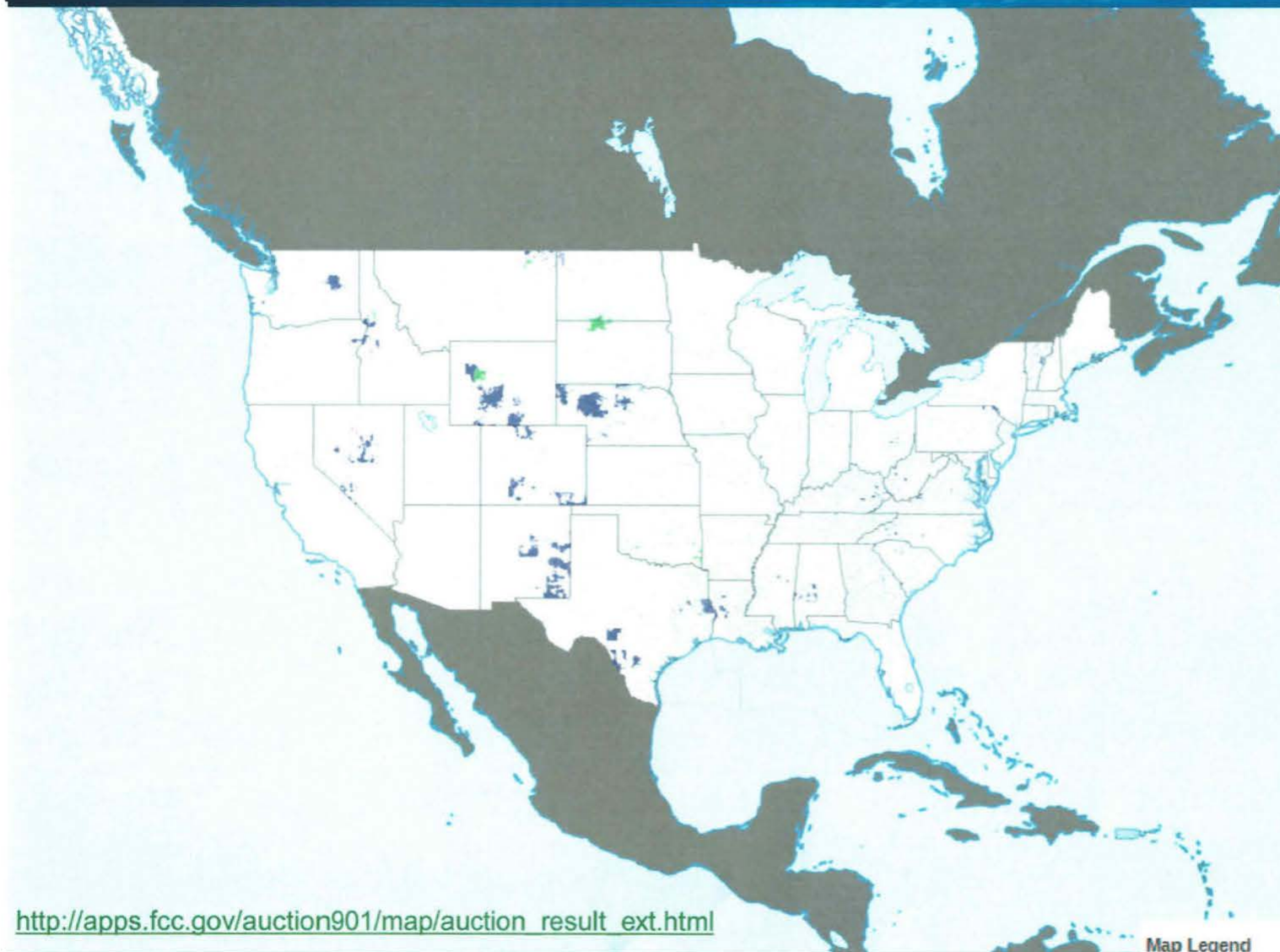
CropScape - Cropland Data Layer



Mobility Fund Phase 1 Eligible Areas



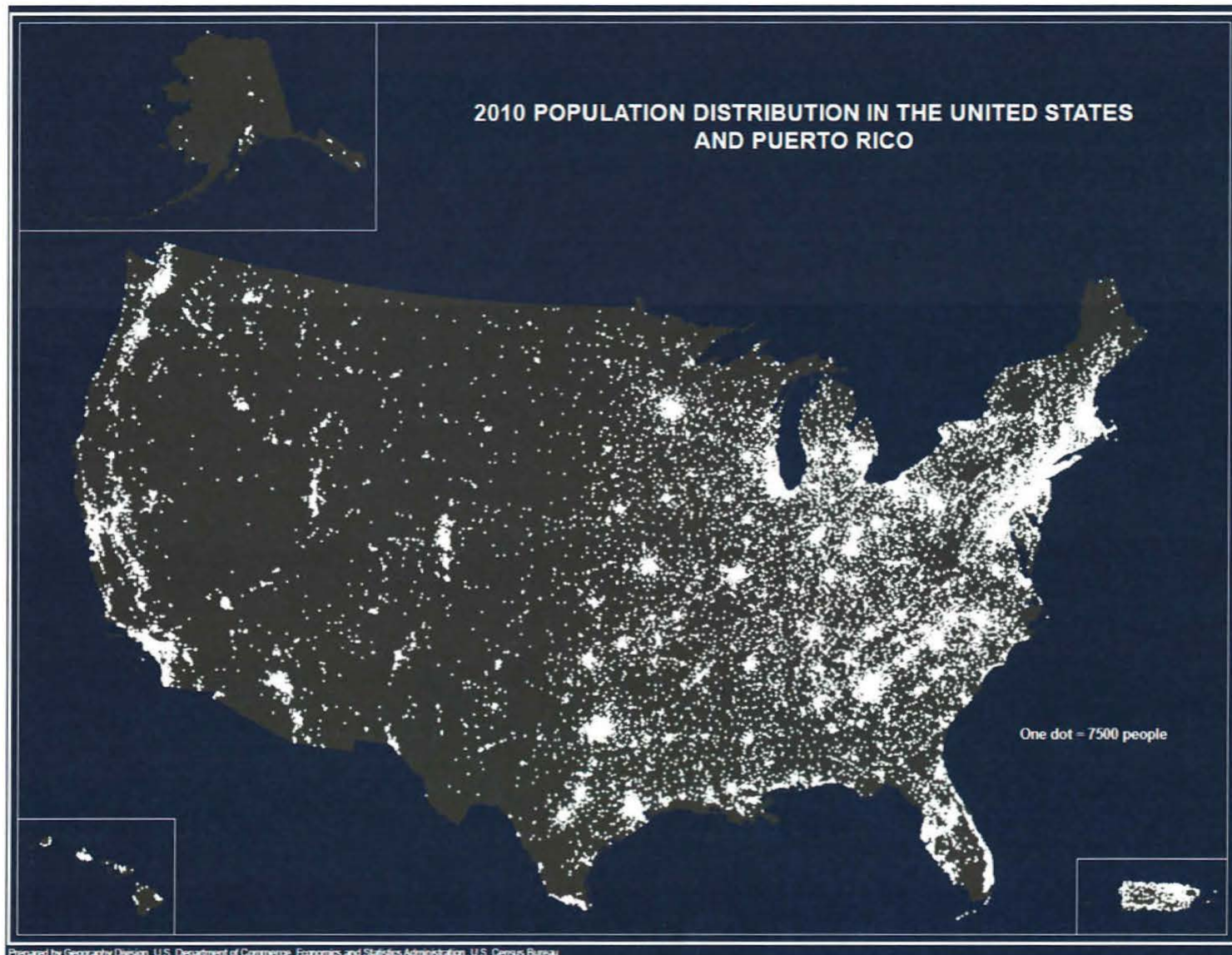
Mobility Fund Phase I Auction Results Map



Map Legend

State

Tribal Land



Prepared by Geography Division, U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau

http://www2.census.gov/geo/maps/dc10_thematic/2010_Nighttime_PopDist/2010_Nighttime_PopDist_Page_Map.pdf

Next Steps



JOHN DEERE